

CLAIMS

What is claimed is:

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1. A system for providing a bitstream including compressed video data, the system comprising:

a tiling apparatus that receives first compressed video data that may be displayed at a low resolution, and outputs the first compressed video data such that it may be displayed
10 using a high resolution; and

a combiner that receives the first compressed video data that may be displayed using the high resolution and receives second compressed video data that may be displayed at the high resolution, and combines the first compressed video data and the second compressed video data together to provide an output bitstream including the first compressed video data
15 and the second compressed video data.

2. The system of claim 1 wherein the tiling apparatus comprises a static video data generator that generates static compressed video data that may be displayed using the high
20 resolution.

3. The system of claim 2 wherein the tiling apparatus comprises a tiler that combines the first compressed video data that may be displayed at the low resolution and the static compressed video data from the static video data generator.
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4. The system of claim 3 wherein the static video data generator includes a compressed static video data buffer.

5. The system of claim 3 further comprising a scan controller that selects high
30 resolution macroblocks that the tiler tiles using macroblocks from the first compressed video data or the static compressed video data.

6. The system of claim 1 wherein the tiling apparatus receives third compressed video data that may be displayed at a third resolution, and outputs the first compressed video data such that it may be displayed at the third resolution.

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7. A method for transmitting a bitstream comprising compressed video data, the method comprising:

receiving first compressed video data that may be displayed at a low resolution;

receiving second compressed video data that may be displayed at a high resolution;

10 converting the first compressed video data such that it may be displayed using the high resolution; and

combining the first compressed video data and the second compressed video data into an output compressed bitstream including compressed video data that may be displayed at the high resolution.

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8. The method of claim 7 wherein converting the first compressed video data comprises combining the first compressed video data with additional compressed video data such that the first compressed video data and the additional video data may be displayed at the high resolution.

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9. The method of claim 8 wherein the bitstream is an MPEG compressed bitstream.

10. The method of claim 9 wherein combining the first compressed video data with additional video data is performed by tiling macroblocks from the first compressed video data and macroblocks from the additional compressed video data.

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11. The method of claim 10 wherein the additional video data includes static video data macroblocks.

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12. The method of claim 11 further including determining the size of a low resolution border around a set of macroblocks included in a frame of the first compressed video data.

13. The method of claim 12 wherein macroblocks from the first compressed video data are tiled within the low resolution border and macroblocks from the additional video data are tiled outside the low resolution border.

5 14. The method of claim 7 wherein converting the first compressed video data such that it may be displayed using the high resolution is performed in real time.

15. The method of claim 7 further including transcoding the output compressed bitstream.

10 16. The method of claim 7 wherein combining the first compressed video data and the second compressed video data into the output compressed bitstream includes splicing the first compressed video data and the second compressed video data.

15 16. The method of claim 7 wherein combining the first compressed video data and the second compressed video data into the output compressed bitstream includes remultiplexing the first compressed video data and the second compressed video data.

17. The method of claim 7 wherein the video data is compressed according to MPEG compression.

20 18. The method of claim 17 further including inserting pan-and-scan information into the compressed bitstream.

25 19. A method for transmitting a bitstream comprising MPEG compressed video data, the method comprising:

receiving first compressed video data that may be displayed at a low resolution;

receiving second compressed video data that may be displayed at a high resolution;

determining the size of a low resolution border around a set of macroblocks included

30 in a frame of the first compressed video data;

generating additional compressed video data that may be displayed using the high resolution;

tiling macroblocks from the first compressed video data and macroblocks from the additional compressed video data; and

combining the first compressed video data and the second compressed video data into an output compressed bitstream including compressed video data that may be displayed at the high resolution.

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20. The method of claim 19 wherein the additional video data includes static video data macroblocks.

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21. The method of claim 19 wherein macroblocks from the first compressed video data are tiled within the low resolution border and the static video data macroblocks are tiled outside the low resolution border.

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22. The method of claim 20 further including inserting pan-and-scan information into the compressed bitstream.

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23. A method for transmitting a bitstream comprising MPEG compressed video data, the method comprising:

receiving first MPEG compressed video data that may be displayed at a low resolution;

receiving second MPEG compressed video data that may be displayed at a high resolution;

converting the first MPEG compressed video data such that it may be displayed using the high resolution without decoding the first MPEG compressed video data; and

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combining the first MPEG compressed video data and the second MPEG compressed video data into an output compressed bitstream including MPEG compressed video data that may be displayed at the high resolution.

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24. The method of claim 23 further including determining the size of a low resolution border around a set of macroblocks included in a frame of the first compressed video data.

25. The method of claim 24 further comprising tiling macroblocks from the first compressed video data and macroblocks from the additional compressed video data.

26. The method of claim 25 wherein macroblocks from the first compressed video data are tiled within the low resolution border and macroblocks from the additional video data are tiled outside the low resolution border.

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27. A system for transmitting a bitstream comprising compressed video data, the system comprising:

means for receiving first compressed video data that may be displayed at a low
10 resolution;

means for receiving second compressed video data that may be displayed at a high resolution;

means for converting the first compressed video data such that it may be displayed at the high resolution; and

15 means for combining the first compressed video data and the second compressed video data into an output compressed bitstream including compressed video data that may be displayed at the high resolution.

20 28. The system of claim 27 wherein said means for converting the first compressed video data such that it may be displayed at the high resolution comprises a video data generation means for generating additional compressed video data.

29. The system of claim 28 wherein said means for converting the first compressed video
25 data such that it may be displayed at the high resolution comprises assembling means for combining the first compressed video data and the additional compressed compressed video data.

30 30. A computer readable medium including instructions for transmitting a bitstream comprising compressed video data, the instructions comprising:
instructions for receiving first compressed video data that may be displayed at a low resolution;

